9051 Mira Mesa Blvd, #910094
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LIF Human

Leukemia Inhibitory Factor Human Recombinant
CYK0474

Product Overview

Name	LIF Human
Description	
Leukemia Inhibitory Factor Human Recombinant	
Accession (Primary)	P15018
Synonyms	
CDF, HILDA, D-FACTOR, Differentiation- stimulating factor, Melanoma-derived LPL inhibitor, MLPLI, Emfilermin, Leukemia inhibitory factor, LIF, DIA.	
Introduction	
Leukemia Inhibitory Factor also called LIF is a lymphoid factor that promotes long-term maintenance of embryonic stem cells by suppressing spontaneous differentiation. Leukemia Inhibitory Factor has several functions such as cholinergic neuron differentiation, control of stem cell pluripotency, bone & fat metabolism, mitogenesis of factor dependent cell lines & promotion of megakaryocyte production in vivo. Human and mouse LIF exhibit a 78% identity in its amino acid sequence.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
Leukemia Inhibitory Factor (LIF) was lyophilized from a concentrated (1mg/ml) sterile solution containing 1xPBS pH 7.4.	
Stability	
Lyophilized Leukemia Inhibitory Factor (LIF) although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Leukemia Inhibitory Factor (LIF) should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.	
Purity	
Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.	
Amino acid sequence	

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SPLPITPVNA TCAIRHPCHN NLMNQIRSQL AQLNGSANAL FILYYTAQGE PFPNNLDKLC GPNVTDFPPF HANGTEKAKL VELYRIVVYL GTSLGNITRD QKILNPSALS LHSKLNATAD ILRGLLSNVL CRLCSKYHVG HVDVTYGPDT SGKDVFQKKK LGCQLLGKYK QIIAVLAQAF.

Biological Activity

The ED50 was determined by the M1 cell differentiation assay is < 0.01 ng/ml, corresponding to a specific activity of 100,000,000IU/mg.

Solubility

It is recommended to reconstitute the lyophilized Leukemia Inhibitory Factor (LIF) in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Leukemia Inhibitory Factor (LIF) Background Leukemia Inhibitory Factor (LIF) is a cytokine within the interleukin-6 family. It is influential in the hypothalamus and involved in energy balance. LIF stimulates ACTH secretion and affects the stress and immune response in the body. Administration of LIF has been shown to correct low plasma ACTH and repair hypothalamic-pituitary-adrenal (HPA) axis responses. Function and Applications of LIF LIF prevents the proliferation of myeloid leukemia cells by inducing their terminal differentiation. Beyond cancer, LIF influences bone metabolism, embryogenesis, and inflammation. Moreover, it supports the self-renewal of stem cells in culture by activating Stat3, thus preventing spontaneous differentiation, and is studied for potential benefits in fertility treatments. Structure and Interactions LIF's structure consists of a four alpha-helix bundle similar to other hematopoietic cytokines. It interacts with components such as the ciliary neurotrophic factor (CNTF) through multimeric receptors, influencing both cytokine's effects on cells. This interaction is crucial for forming high-affinity binding sites that mediate their biological activities.

Precautions

LIF Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P15018)

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